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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,419	01/10/2002	Stefan Blomgren	HPX0072-PCT	8781

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EXAMINER	
LOWE, MICHAEL S	

ART UNIT	PAPER NUMBER
3652	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,419	BLOMGREN ET AL.	
	Examiner	Art Unit	
	M. Scott Lowe	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/13/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,5-9 and 21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5-9,21,25,27-29* is/are rejected.

7)☐ Claim(s) *22-24 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

Claims 7-9,22,23 are objected to because of the following informalities: the claims should begin with "The method" rather than "The robot unit". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25,28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what first and second pairs of opposing rollers contacting first and second distal ends respectively of the second beam unit means. As the second beam is moved up and down, all rollers would appear to travel over all of the second beam.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2,6-9,21,25,28,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (DE 9417837) in view of Davis (US 5,483,876).

Re claims 2,6-9,21, Muller teaches a method for rapid transfer of a work object in both the horizontal and vertical directions using a robot unit having a gripping mechanism 20, the workpiece being capable of weighing between one kilo and forty kilos. The object is transferable in the horizontal direction 1 to 10 meters along a beam member 12; the robot 10 controlled by a control unit and driven by a single belt 22 and at least 2 motors 32, 40 comprising rotor unit connected to the drive wheels; the motors immovably arranged in relation to workstations (not numbered) and transfer of the work object done without displacement of the motors; the movement along a pre-programmed path monitored and controlled continuously through registration of the situation of each of the rotors forming part of the motors. Muller teaches the robot comprising a first beam unit 12 extending between two end points and the first and the second workstation (not numbered), wherein the first beam unit 12 is the essentially horizontally extending beam 12;

a slide 14 which is arranged movably along the first beam unit 12, wherein the slide 14 defines a vertical opening, and wherein the slide comprises a first pair of opposing guide rollers (64,66,etc.) on a first side of the vertical opening and a second pair of opposing guide rollers (68,70,etc.) on a second side of the vertical opening opposite to the first side of the vertical opening;

a second beam unit 16 which extends essentially perpendicular to the first beam unit 12 and which is arranged movably on the slide 14, wherein the second beam unit 16 moves vertically within the vertical opening, and wherein the first and second pairs of opposing guide rollers contact the second beam unit;

the gripping mechanism 20 arranged on one end of the second beam unit 16;

the at least two drive motors, which are connected to the control unit, a number of deflection rollers (30,34,etc.), and the belt member 22, wherein the belt member is in the form of a single continuous drive belt which runs around the drive wheels of the drive motors and the deflection rollers and is fastened to the one end of the second beam unit, and wherein the control unit is connected to an operator panel through which the control computer in the control unit can continuously be reprogrammed by manually controlling the gripping mechanism to move into chosen situations.

Muller is silent on moving a work object beyond the beam end situation, intermediate table and simultaneous transfer. However, Davis teaches a similar device handling an object beyond an end situation and wherein the gripping mechanism 10 moves along the beam and is arranged with at least two gripping units 48,48,52,52 a first gripping unit collecting the work object from the first position and a second gripping unit depositing the work object in a second position beyond a second end situation along the beams each of the first and second gripping units collecting and placing objects simultaneously with the other unit, wherein an intermediate storage 54 for change of place of the work object is effected before the work object is transferred from the first position to the second position, and wherein the first gripping unit collects the work object from the first position and deposits the work object at the intermediate storage and the second gripping unit collects the work object from the intermediate storage and deposits the work object in the second position in order speed up production (summary of the invention). It would have been obvious to one of ordinary

skill in the art at the time the invention was made to have modified Muller by the general teaching of Davis to handle an object beyond an end situation and wherein the gripping mechanism moves along the beam and is arranged with at least two gripping units, a first gripping unit collecting the work object from the first position and a second gripping unit depositing the work object in a second position beyond a second end situation along the beams each of the first and second gripping units collecting and placing objects simultaneously with the other unit, wherein an intermediate storage for change of place of the work object is effected before the work object is transferred from the first position to the second position, and wherein the first gripping unit collects the work object from the first position and deposits the work object at the intermediate storage and the second gripping unit collects the work object from the intermediate storage and deposits the work object in the second position in order speed up production.

Re claims 25,28, Muller teaches first and second pairs of rollers (64,66,68,70,etc.) contacts first and second distal ends of the second beam unit 16.

Re claim 29, Muller teaches the gripping mechanism 20 unobstructed by the apparatus in the horizontal direction.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (DE 9417837) in view of Davis (US 5,483,876) and Dixon (US 3,958,740).

Re claim 5, Muller is silent on a "teach-in process" but Dixon teaches a "teach-in process" (column 3, 2nd paragraph from bottom) to allow to for easier programming (column 4, paragraph 2). It would have been obvious to one of ordinary skill in the art at

the time the invention was made to have modified Muller by Dixon to have a "teach-in process" to allow to for easier programming.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (DE 9417837) in view of Davis (US 5,483,876) and White (US 4,293,011).

Re claim 5, Muller is silent on the second beam being an I-beam but White teaches I-beam 58 on a similar device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Muller by White to have the second beam be an I-beam to have a structurally equivalent device and to simplify the device by eliminating the need for separate rails.

Claims 2,6-9,21,25,28,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (DE 9417837) in view of Kato (4,509,638).

Re claims 2,6-9,21, Muller teaches a method for rapid transfer of a work object in both the horizontal and vertical directions using a robot unit having a gripping mechanism 20, the workpiece being capable of weighing between one kilo and forty kilos. The object is transferable in the horizontal direction 1 to 10 meters along a beam member 12; the robot 10 controlled by a control unit and driven by a single belt 22 and at least 2 motors 32, 40 comprising rotor unit connected to the drive wheels; the motors immovably arranged in relation to workstations (not numbered) and transfer of the work object done without displacement of the motors; the movement along a pre-programmed path monitored and controlled continuously through registration of the

situation of each of the rotors forming part of the motors. Muller teaches the robot comprising a first beam unit 12 extending between two end points and the first and the second workstation (not numbered), wherein the first beam unit 12 is the essentially horizontally extending beam 12;

a slide 14 which is arranged movably along the first beam unit 12, wherein the slide 14 defines a vertical opening, and wherein the slide comprises a first pair of opposing guide rollers (64,66,etc.) on a first side of the vertical opening and a second pair of opposing guide rollers (68,70,etc.) on a second side of the vertical opening opposite to the first side of the vertical opening;

a second beam unit 16 which extends essentially perpendicular to the first beam unit 12 and which is arranged movably on the slide 14, wherein the second beam unit 16 moves vertically within the vertical opening, and wherein the first and second pairs of opposing guide rollers contact the second beam unit;

the gripping mechanism 20 arranged on one end of the second beam unit 16;

the at least two drive motors, which are connected to the control unit, a number of deflection rollers (30,34,etc.), and the belt member 22, wherein the belt member is in the form of a single continuous drive belt which runs around the drive wheels of the drive motors and the deflection rollers and is fastened to the one end of the second beam unit, and wherein the control unit is connected to an operator panel through which the control computer in the control unit can continuously be reprogrammed by manually controlling the gripping mechanism to move into chosen situations.

Muller is silent on moving a work object beyond the beam end situation, intermediate table and simultaneous transfer. However, Kato teaches a similar device handling an object beyond an end situation and wherein the gripping mechanism 16,17 moves along a beam (12,13,etc.) and is arranged with at least two gripping units 17, a first gripping unit 17 collecting the work object from the first position and a second gripping unit 17 depositing the work object in a second position beyond a second end situation along the beams each of the first and second gripping units collecting and placing objects simultaneously with the other unit, wherein an intermediate storage 32 for change of place of the work object is effected before the work object is transferred from the first position to the second position, and wherein the first gripping unit collects the work object from the first position and deposits the work object at the intermediate storage and the second gripping unit collects the work object from the intermediate storage and deposits the work object in the second position in order to improve speed and reduce size (object and summary of the invention). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Muller by the general teaching of Kato to handle an object beyond an end situation and wherein the gripping mechanism moves along the beam and is arranged with at least two gripping units, a first gripping unit collecting the work object from the first position and a second gripping unit depositing the work object in a second position beyond a second end situation along the beams each of the first and second gripping units collecting and placing objects simultaneously with the other unit, wherein an intermediate storage for change of place of the work object is effected before the work

object is transferred from the first position to the second position, and wherein the first gripping unit collects the work object from the first position and deposits the work object at the intermediate storage and the second gripping unit collects the work object from the intermediate storage and deposits the work object in the second position in order to improve speed and reduce size.

Re claims 25,28, Muller teaches first and second pairs of rollers (64,66,68,70,etc.) contacts first and second distal ends of the second beam unit 16.

Re claim 29, Muller teaches the gripping mechanism 20 unobstructed by the apparatus in the horizontal direction.

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skill in the art at the time the invention was made to have modified Muller by White to have the second beam be an I-beam to have a structurally equivalent device and to simplify the device by eliminating the need for separate rails.

Allowable Subject Matter

Claims 21,24-29 are allowed.

Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The indicated allowability of claims 6-9,21,25,27-29 is withdrawn in view of the newly reconsidered Mueller reference and the newly found White reference.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Erikkilia (US 5,445,282) teaches a similar device.

Lomerson (US 6,626,630) teaches a similar device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Scott Lowe whose telephone number is (571) 272-6929. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msl

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